Assessing the Risk of Decision Making Related to Uncharacteristic Wildfires: A 2003 Symposium

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Other Collaborators: *See Steering Committee list in proposal*

Abstract:
Forest reserves have been established to protect resources such as red-cockaded woodpeckers in the southeastern U.S., northern spotted owls and other vertebrates in the Pacific Northwest, aquatic resources such as salmon and bull trout, and the Canada lynx throughout its range. Although such reserves offer short-term protection, forests with high fuel hazard subject protected resources to the long-term risk of uncharacteristically large and intense wildfires. The relative short-term risks to protected species and waters versus the long-term risks of unmitigated hazards have seldom been quantitatively assessed, and short-term protection for species and water in unmanaged reserves with high-hazard habitat may well result in unintended long-term detrimental effects. For example, virtually all Late-Successional Reserves in the Pacific Northwest are located in areas categorized as having either moderate or high hazard of uncharacteristic wildfires.

We will address these elements of risk and resource values by convening a symposium to determine a specific strategy for developing and applying analytical tools that can quantify the relative risks of management action and inaction in high-hazard forests. Planning is well underway for this symposium, scheduled for 17-19 November 2003. A steering committee has created a prospectus to develop and apply methods and technologies to assess the short- and long-term ecological effects of various management options for forest ecosystems at risk of large and intense wildfires. By including leaders in the scientific and management communities, the symposium will be able to address decision-making and policy needs relative to hazard-fuel treatment with specific tools, and suggest where new tools and decision support may be necessary. Two journals have already agreed to publish the plenary papers of this symposium, ensuring rapid dissemination of results.

Individual Proposing Project:

David L. Peterson, Research Biologist Date

Authorized Agency Representative:

John Laurence, Program Manager Date

Introduction

Project Justification

Forest reserves and areas with various types of protected status and resource management objectives have been established throughout the United States to protect specific species and habitats. Perhaps the best known example is the Late-Successional Reserve system established by the Northwest Forest Plan to protect the northern spotted owl. Similarly, late-successional habitat in the southeastern United States is a management objective for the protection of habitat for red-cockaded woodpeckers. The protection of aquatic habitat for bull trout, and the protection of broad expanses of forest habitat for Canada lynx are additional high-profile conservation challenges. Reserves focused on species protection typically use a fine-filter conservation strategy to the potential exclusion of management for other species and broader landscape characteristics. In some cases, forest reserves that provide protection in the *short term* are vulnerable to modification or loss in the *long term*, due to uncharacteristically large and intense wildfires in areas with high fuel hazard.

The relative *short-term* risks to protected species and waters versus *long-term* risks of unmitigated hazards have seldom been quantitatively assessed, and short-term protection for species and waters in reserves with high-hazard habitat may well result in unintended long-term detrimental effects. For example, virtually all Late-Successional Reserves in the Pacific Northwest are located in areas categorized as having either moderate or high hazard of uncharacteristic wildfires.

In response to JFSP AFP 2003-4, Task 2, we propose a symposium to address these elements of risk and resource values and to determine a specific strategy for developing and applying analytical tools that can quantify the relative risks of management action and inaction in high-hazard forests. Planning is well underway for this symposium, scheduled for 17-19 November 2003. A steering committee has created a prospectus to develop and apply methods and technologies to assess the short-term and long-term ecological effects of various management options for forest ecosystems at risk of large and intense wildfires. By including leaders in the scientific and management communities, the symposium will be able to address decision-making and policy needs relative to hazard-fuel treatment with specific tools, and suggest where new tools and decision support may be necessary. Two journals have already agreed to publish the plenary papers of this symposium, ensuring rapid dissemination of results.

Project Objectives

In order to develop a strategic approach for assessing the risk of decision making related to uncharacteristic wildfires, we will:

- Organize a symposium focused on topics relevant to the current conservation debate regarding fuel treatments and habitat protection, with a specific focus on risk assessment and fire.

- Convene a symposium in November 2003 on this topic and compile the results in workgroups and plenary papers.

- Publish the results of the symposium in peer-reviewed journals and common-language summaries shortly after the symposium.

Information and Products Provided

The Risk Assessment symposium will provide a state-of-science strategic approach for assessing how risk can be conceptualized and quantified in order to facilitate informed decision making regarding fuel treatments and fire management. Specifically, peer-reviewed plenary papers, workgroup summaries, and executive summaries will be published shortly after the symposium and will be disseminated to the JFSP, agencies, Congressional staffs, and the general public.

Background

Federal agencies are facing the major challenge of managing for multiple resources, while accelerating fuel treatments and mitigating for large and intense wildfires. All management strategies have risk associated with them, although that risk is typically not quantified. Furthermore, current levels of fuel accumulation pose a major risk to loss of certain habitats at large spatial scales. In response to this challenge, the National Council for Air and Stream Improvement (NCASI) was asked to organize a symposium on relative risk assessment. An organizing committee of scientists and administrators was developed (see below), and has developed a symposium agenda with several panel sessions. At this point, the symposium has been scheduled but requires additional funds to fully meet its objectives, ensure participation by key attendees, and produce high-quality products.

Materials and Methods

A large organizing committee has ensured a broad range of perspectives in the planning process. The committee has met four times over the past year in preparation for the symposium. Committee members include:

Agee, Jim—Univ. Washington, Seattle
Briggs, David—Univ. Washington Seattle
Bryant, Larry—USFS, Washington, D.C.
Finney, Mark—USFS, Missoula, MT
Franklin, Jerry—Univ. Washington, Seattle, WA
Gould, Rowan—US Fish & Wildlife Serv., Portland, OR
Graybeal, Nancy—USFS, Washington D.C. Office
Hardy, Colin—USFS, Missoula, MT
Holmberg, Joe—Oregon State Univ., Corvallis, OR
Hovekamp, Spencer, NMFS, Portland, OR
Irwin, Larry—NCASI, Stevensville, MT
Kinsinger, Anne—USGS, Seattle, WA
Laurence, John—USFS, Corvallis, OR
Lehman, Leslie—Oregon Forest Research Inst., Salem, OR
Mealey, Steve—Boise Building Solutions, Springfield, OR
Morgan, Penelope—Univ. Idaho, Moscow

Neuenschwander, Leon—Univ. Idaho, Moscow
Peterson, David—PNW Station, Univ. Washington, Seattle
Pollock, Michael—NOAA, Portland, OR
Powelson, Michael—The Nature Conservancy, Corvallis, OR
Salwasser, Hal—College of Forestry, Oregon State Univ.
Sampson, Neil—The Sampson Group, Alexandria, VA.
Thomas, Jack Ward—Univ. Montana, Missoula
Troyer, Jack—USFS Int. Region, Ogden, UT
Van Lear, David—Clemson Univ., Clemson, SC
Wigley, Ben—NCASI, Clemson University, Clemson, SC
Williams, Jack—USFS, Southern Oregon University, Medford, OR
Zabel, Richard—Western Forest Resource Association, Portland, OR

It is anticipated that many members of the organizing committee will also participate in the symposium.

The following pages contain a prospectus and agenda for the symposium:

ASSESSING THE RISK OF DECISION MAKING RELATED TO UNCHARACTERISTIC WILDFIRES

Advancing the Tools and Procedures For Relative Risk Assessments

17-19 November 2003, Jantzen Beach Doubletree Hotel, Portland, Oregon

Increasingly, forest and range ecosystems are being affected by laRge-scale disturbances, including those caused by insects, diseases and wildfires. The occurrence or threat of uncharacteristic wildfires (those that burn with unusually high severity) is of particular concern in drier ecosystems (Schmidt et al. 2002). This includes for example, sagebrush-grasslands, and dry Douglas fir, dry grand fir and ponderosa pine forests in the West, and longleaf pine forests in the Southeast that evolved with short interval (0-35 year), low intensity wildfires. All values of the forests and rangelands are affected, including economic and social, as well as wildlife, fish and water resources. Public and private landowners and managers must assess the short-term ecosystem effects, often on species listed under ESA, of restoration management designed to reduce risks posed by uncharacteristic wildfire. Yet, in order to balance risks, they also must assess the long-term effects of restoration management as well as effects of no management. In this "relative risk" assessment process, thresholds for unacceptable short-term risks are not commonly defined and understood, while tools and procedures for assessing long-term effects of various options for restoration management are generally lacking. This conference is designed to develop tools and information necessary for "better and more consistent approaches…regarding the balance between short and long-term risks and benefits" (Rey 2002), associated with fuel treatments or other restoration in the short-term to prevent uncharacteristic wildfire, and the absence in the long-term of such restoration.

GOAL

The primary goal of the symposium is to advance analytical tools and decision-making procedures that will provide managers equal confidence in their ability to assess and display short-term and long-term risks and benefits of restoration and short-term and long-term risks and benefits of no restoration, so that balanced decisions are possible.

OJBECTIVES

1. Summarize the disciplines of risk assessment, and management and decision-making including the "precautionary principle", applied to "natural" systems.
2. Summarize the state-of-the-art for predicting hazards and risks of uncharacteristic wildfire.
3. Summarize the conservation biology principles, management practices and specific cases for conservation of "species in peril".
4. Summarize the principles, management practices and specific cases for conservation of other (air, water, human life and property) "values at risk".
5. Identify needs and priorities for new assessment methods and tools, and for new decision-making protocols.
6. Describe a protocol for decision making in which considerations of short-term and long-term risks/benefits and uncertainty are primary.

FOCUS TOPICS

1. Define short-term risks and benefits of restoration management.
2. Define and describe "unacceptable" short-term risks of restoration.
3. Define long-term risks and benefits of no restoration.
4. Define and describe "unacceptable" long-term risks of no restoration.
5. Define and describe necessary decision-making protocols related to "relative risks" and uncertainty.
6. If methods and tools in use are lacking for the above questions, describe needed results, and selection criteria for necessary tools and protocols.

METHOD

The symposium will develop a Plenary Session, involving presentations by a small cast of experts, identify presenters for poster session papers, and identify speakers for special case studies of broad interest. The papers,. Including those presented at the poster session, will be edited, peer reviewed, and submitted as a special publication in an international scientific journal.

AGENDA

I. OPENING CEREMONIES: President of NCASI

II. PLENARY SESSION---Day One

A. KEYNOTE: Western Governor--Former Oregon Governor Kitzhaber (invited)
Western Governors Association Perspective

B. POLICY PANEL: Agency Heads and Stakeholders

"Relative Risk Assessments, Balancing Risks, and the National Fire Plan: Needs and Opportunities"--*To be developed by Jack Troyer, Rowan Gould, Spencer Hovekamp*

C. RISK SCIENCE/ DECISION PROTOCOL PANEL: Field Experts

***"State-Of-The-Art Theory and Practice for Risk Analysis and Management for Natural Systems and Related Decision Protocol: Needs and Opportunities"—To be developed by* John Laurence and Hal Salwasser**

C. WILDFIRE HAZARD AND RISK PANEL: Field Experts

***"State-Of-The-Art Predictive Modeling For Hazards And Risks Of Uncharacteristic Wildfire: Needs and Opportunities"—To be devbloped by* Mark Finney, Colin Hardy, Neil Sampson, David Peterson and Leon Neuenschwander**

D. SPECIES AND HABITATS "IN PERIL" AND OTHER VALUES AT RISK PANEL: Field Experts

"Principles and Practices for Conserving Species in Peril and other Values at Risk: Needs and Opportunities"—Steve Mealey and Hal Salwasser to develop critieria

III. EVENING SESSION---Day One

Poster Session---Presentation of Pre-prepared invited papers on Invited Topics

1. The Science and Art of Risk Assessment and Management
2. Predicting Hazards and Risks for Uncharacteristic Wildfires
3. Risk and Uncertainty Principles and Practices for Species Preservation: Real World Examples

IV. PLENARY SESSION---Day Two

A. Morning Session---Continuation of Panels

B. Afternoon Session---Presentation of Case Study Results Addressing the Focus Questions

1. Fish/Fire Interactions in Fragmented and in Unfragmented Habitats
2. Ashland or Baker City Watershed: The "Urban Interface" Problem
3. RCW/Longleaf Pine
4. Upland Restoration in Fire Prone Sites
5. Sierra Nevada Framework and/or "Southwest Idaho Ecogroup" Draft Forest Plan Revisions

(*Note: Case study teams will be "assigned" six months ahead of the conference. Their work, following a common format addressing insofar as possible the focus questions, will be completed prior to the conference, and the results collated and presented there.)*

V. Evening Banquet
Banquet Keynote: TBA (USDA or USDI Secretary, EPA or Federal Agency Head-USFWS, NMFS, EPA, USFS, or BLM)

VI. PLENARY SESSION---Day Three

A. RESULTS AND SUMMARY PANEL: Preselected Panel
Presentation of Conference Findings and Results Relative to the Focus Questions

B. NEEDS AND PRIORITIES PANEL: Preselected Panel
Summary of Needs, Opportunities, and Priorities Relative to the Focus Questions

C. CLOSING: American Wildlife Conservation Partners (AWCP) President

Deliverables

- Symposium on risk assessment, convened November 17-19, 2003.
- Published plenary papers in peer-reviewed journals (Ecological Applications and/or Forest Ecology and Management; editors will be Dr. David Peterson and Dr. Ben Wigley.
- Executive summary and workgroup summary provided to the JFSP, agencies and government officials.

Technology Transfer

All published material from the symposium will be posted on the NCASI web site and will be available in hard copy by request. This published material will also be provided to all federal land management agencies.